

PROPOSED REVISIONS TO CHAPTER 534A – GEOTHERMAL RESOURCES

BASED ON LCB FILE NO. R032-19 (Adopted December 2019)

DOCUMENT NOT YET APPROVED OR CODIFIED

Some wording, titles, order & formatting expected to change with codification

(Additions in *blue italics*, deletions in ~~red strikethrough~~)

NEVADA ADMINISTRATIVE CODE CHAPTER 534A – GEOTHERMAL RESOURCES

GENERAL PROVISIONS

NAC 534A.010 Definitions. (NRS 513.063, 534A.090) As used in this chapter, unless the context otherwise requires, the words and terms defined in NAC 534A.012 to 534A.085, inclusive, *and section 2 of this regulation* have the meanings ascribed to them in those sections.

NAC 534A.012 “Administrator” defined. (NRS 513.063, 534A.090) “Administrator” means the Administrator of the Division.

(Added to NAC by Comm’n on Mineral Resources, eff. 11-12-85) — (Substituted in revision for NAC 534A.039)

NAC 534A.015 “Annular space” and “annulus” defined. (NRS 513.063, 534A.090) “Annular space” or “annulus” means the space between the walls of the well as drilled and the casing or between a permanent casing and the borehole.

(Added to NAC by Comm’n on Mineral Resources, eff. 11-12-85)

NAC 534A.020 “Aquifer” defined. (NRS 532.120, 534.020, 534.110) “Aquifer” means a geological formation or structure that *stores or* transmits water.

~~**NAC 534A.030 “Artesian hole” defined.** (NRS 532.120, 534.020, 534.110) “Artesian hole” means a hole tapping an aquifer underlying an impervious material in which the static water level in the hole stands above where it is first encountered in the aquifer. The water can be hot or cold.~~

~~[St. Engineer, Exploration Drilling Reg. part Art. I + part Art. VII, eff. 12-13-77]~~

NAC 534A.031 “Blowout” defined. (NRS 513.063, 534A.090) “Blowout” means an uncontrolled escape of fluids and gases from a geothermal well.

(Added to NAC by Comm’n on Mineral Resources, eff. 11-12-85)

NAC 534A.033 “Casing” defined. (NRS 513.063, 534A.090) “Casing” means the conduit required to prevent waste and contamination of the groundwater, the geothermal resource, or both, and to hold the formation open during the construction or use of the well.

(Added to NAC by Comm’n on Mineral Resources, eff. 11-12-85)

NAC 534A.035 “Commission” defined. (NRS 513.063, 534A.090) “Commission” means the Commission on Mineral Resources.

(Added to NAC by Comm’n on Mineral Resources, eff. 11-12-85)

NAC 534A.037 “Division” defined. (NRS 513.063, 534A.090) “Division” means the Division of Minerals of the Commission on Mineral Resources.

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*note: section 2 of this regulation refers to sections of the **R_032-19** LCB document; see SECTION 2 of that document or as referenced in the comments of this document.

Comment [CB2]: LCB File No. R032-19
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Comment [CB3]: LCB File No. R032-19
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(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85)

NAC 534A.040 “Geothermal resource” defined. (NRS 532.120, 534.020, 534.110)
“Geothermal resource” has the meaning ascribed to it in NRS 534A.010.

[St. Engineer, Exploration Drilling Reg. part Art. I, eff. 12-13-77]

NAC 534A.045 “Guide shoe” defined. (NRS 513.063, 534A.090) “Guide shoe” means a short, heavy cylindrical section which is rounded at the bottom and placed at the end of a string of casing.

(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85)

~~NAC 534A.050 “Hole” defined. (NRS 532.120, 534.020, 534.110) “Hole” means an artificial excavation put down by any method for the purposes of collecting geochemical, geological or geophysical data.~~

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~~[St. Engineer, Exploration Drilling Reg. part Art. I, eff. 12-13-77]~~

~~NAC 534A.060 “Hole driller” defined. (NRS 532.120, 534.020, 534.110) “Hole driller” means any person who drills a hole for compensation or otherwise.~~

Comment [CB5]: LCB File No. R032-19
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~~[St. Engineer, Exploration Drilling Reg. part Art. I, eff. 12-13-77]~~

NAC 534A.061 “Injection well” defined. (NRS 513.063, 534A.090) “Injection well” means any well used to dispose of fluids derived from geothermal resources into an underground reservoir.

(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85)

NEW SECTION “Natural Heat of the Earth” defined. For the purposes of NRS 534A.010, “natural heat of the earth” means energy obtained from any medium used to transfer heat, the temperature of which is greater than 85 degrees Fahrenheit at the surface.

Comment [CB6]: LCB File No. R032-19
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NAC 534A.063 “Observational well” defined. (NRS 513.063, 534A.090) “Observational well” means any well used to observe the level of the water and its temperature, pressure and chemistry in a geothermal field.

Comment [CB7]: LCB File No. R032-19
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(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85)

NAC 534A.064 “Operator” defined. (NRS 513.063, 534A.090) “Operator” means the person who has the right to drill and operate a geothermal well.

(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85)

NAC 534A.065 “Person” defined. (NRS 513.063, 534A.090) “Person” includes any trust, estate, agency or governmental entity.

(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85)

NAC 534A.066 “Production well” defined. (NRS 513.063, 534A.090) “Production well” means a geothermal well which is used to transmit fluids derived from geothermal resources to the surface where the fluids are available for industrial, commercial or domestic purposes.

(Added to NAC by Comm'n on Mineral Resources, eff. 12-16-92)

NAC 534A.067 “Reservoir” defined. (NRS 513.063, 534A.090) “Reservoir” means an aquifer or combination of aquifers or porous zones containing a common geothermal or groundwater resource.

(Added to NAC by Comm’n on Mineral Resources, eff. 11-12-85)

NAC 534A.069 “Thermal gradient well” defined. (NRS 513.063, 534A.090) “Thermal gradient well” means a well drilled to obtain a temperature gradient reading in an area of potential geothermal resources.

(Added to NAC by Comm’n on Mineral Resources, eff. 11-12-85)

~~**NAC 534A.070 “Underground water” defined.** (NRS 532.120, 534.020, 534.110)
“Underground water” is synonymous with “groundwater.”~~

~~—[St. Engineer, Exploration Drilling Reg. part Art. I, eff. 12-13-77]~~

~~**NAC 534A.080 “Waste” defined.** (NRS 532.120, 534.020, 534.110) “Waste” means permitting an artesian hole to discharge water unnecessarily above or below the surface of the ground so that the water is lost for beneficial use.~~

~~—[St. Engineer, Exploration Drilling Reg. part Art. I, eff. 12-13-77]~~

NEW SECTION “Well bore” means a cylindrical hole made in the construction or drilling of a well.

NAC 534A.085 “Well log” defined. (NRS 513.063, 534A.090) “Well log” means a written record progressively describing the strata, water and geothermal resources encountered in drilling a well. The term includes all relevant data maintained by the operator including volume, pressure, rate of fill-up and record of casing.

(Added to NAC by Comm’n on Mineral Resources, eff. 11-12-85)

REGULATIONS OF STATE ENGINEER

~~**NAC 534A.090 License to drill: Application; issuance.** (NRS 532.120, 534.020, 534.110)~~

- ~~1. A person licensed to drill wells in the State of Nevada is not required to possess a license to drill exploration holes during the time the license to drill wells is in effect.~~
- ~~2. Unless licensed to drill wells, a driller shall obtain a license by making application to the State Engineer on a form supplied by the State Engineer, accompanied by a \$25 filing fee.~~
- ~~3. Upon receipt of the completed form and \$25 the license will be issued, but the State Engineer may, upon investigation and hearing, refuse to issue a license to an applicant if it appears that the applicant:~~
 - ~~(a) Has not had sufficient training or experience to qualify him or her as a well driller;~~
 - ~~(b) Is incompetent;~~
 - ~~(c) Has theretofore intentionally violated the law relating to well drilling or exploration drilling; or~~

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~~-(d) Has theretofore intentionally made a material misstatement of fact in an application for a well driller's or an exploration driller's license.~~

~~-4. Any license issued pursuant to this chapter expires June 30 of the following year unless renewed.~~

~~-[St. Engineer, Exploration Drilling Reg. part Art. II, eff. 12-13-77]~~

~~**NAC 534A.100 License to drill: Revocation.** (NRS 532.120, 534.020, 534.110)~~

~~-1. The State Engineer, upon investigation and after a hearing held upon at least 15 days' notice sent by registered mail to a licensed driller, may revoke the driller's license if the State Engineer finds among other things that the driller has:~~

~~-(a) Intentionally made a material misstatement of facts in his or her application for a license;~~

~~-(b) Intentionally made a material misstatement of facts in a driller's log and report;~~

~~-(c) Been found to be incompetent as a driller;~~

~~-(d) Willfully violated any of the prescribed regulations; or~~

~~-(e) Failed to submit a log and report of holes drilled in accordance with the regulations.~~

~~-2. The State Engineer may refuse to reissue a license to a driller if it appears that the driller has violated the law or the regulations.~~

~~-3. Failure to comply with the applicable provisions of this chapter is cause for revocation of a drilling license.~~

~~-[St. Engineer, Exploration Drilling Reg. Art. VI + Art. X, eff. 12-13-77]~~

NAC 534A.110 Any drilling rig operated in Nevada must be operated in compliance with the licensing procedures of the State Contractors' Board. ~~[Information may be obtained at the following address:-~~

~~State Contractors' Board~~

~~70 Linden Avenue~~

~~Reno, Nevada 89502~~

~~Telephone: 784-6283~~

[St. Engineer, Exploration Drilling Reg. part Art. II, eff. 12-13-77]

~~**NAC 534A.120 Notice of intention to drill.** (NRS 532.120, 534.020, 534.110) A driller shall notify the State Engineer whenever the driller is about to commence the drilling of a hole, giving the name of his or her client, the approximate location and the approximate depth to be drilled. The driller may use self-addressed post cards furnished by the State Engineer for this purpose.~~

~~-[St. Engineer, Exploration Drilling Reg. Art. III, eff. 12-13-77]~~

~~**NAC 534A.130 Hole logs: Information required.** (NRS 532.120, 534.020, 534.110) On forms provided by the State Engineer, the driller shall provide the following information:~~

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- ~~1. Name and address of the driller's client;~~
- ~~2. Location of holes drilled by quarter section, section, township and range. An example would be: "Section 10, Township 20 North, Range 51 East." If the area has not been mapped, then by distance and directions from a well known landmark. An example would be: "One quarter mile easterly of State Highway 38A at a point 10 miles northerly from the intersection with State Highway 25";~~
- ~~3. Temperature of water, steam or heat may be given in general terms. Examples would be: Hot, warm, cool or cold; and~~
- ~~4. Depth, thickness and character of the different strata penetrated and the location of strata bearing water or a geothermal resource.~~

~~[St. Engineer, Exploration Drilling Reg. Art. III, eff. 12-13-77]~~

~~**NAC 534A.140** **Hole logs: Subsurface information; confidentiality.** (NRS 532.120, 534.020, 534.110) Information about the subsurface obtained as a result of exploration drilling disclosed on hole logs as required by NAC 534A.130 must be filed with the State Engineer within 30 days after it is acquired. Such information together with other information concerning the exploration appearing on the logs and the cards containing the notice of intent to drill is confidential for a period of 5 years from the date of filing the cards or logs and must not be disclosed during that time without the express written consent of the driller's client.~~

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~~[St. Engineer, Exploration Drilling Reg. Art. VIII, eff. 12-13-77]~~

~~**NAC 534A.150** **Sealing of holes.** (NRS 532.120, 534.020, 534.110)~~

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- ~~1. All holes must be sealed at the surface with natural soil or concrete regardless of the diameter or depth of the hole.~~
- ~~2. Holes drilled into or through artesian aquifers must be sealed to prevent upward leakage after the drilling pipe is withdrawn at the conclusion of drilling operations. Failure to so seal a hole constitutes waste.~~

~~[St. Engineer, Exploration Drilling Reg. Art. IV + part Art. VII, eff. 12-13-77]~~

~~**NAC 534A.160** **Waiver of provisions.** (NRS 532.120, 534.020, 534.110) The State Engineer may, upon good cause shown, waive any of the provisions of NAC 534A.090 to 534A.150, inclusive, except NAC 534A.140, if the waiver is in writing and briefly states the reason for the action taken.~~

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~~[St. Engineer, Exploration Drilling Reg. Art. IX, eff. 12-13-77]~~

REGULATIONS OF COMMISSION ON MINERAL RESOURCES

General Provisions

NAC 534A.170 **Types of wells.** (NRS 513.063, 534A.090) A geothermal well is considered by the Division as:

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1. A *geothermal* domestic well if ~~it~~ *the well* is used solely ~~to~~

~~(a) For~~for domestic *heating* purposes by one or more single family dwellings on a single parcel of land under the same ownership . ~~[and not more than an annual average of 1,800 gallons of water a day is drawn from the well; or (b)]~~*2. A commercial well if the well is used:*

(a) By a commercial user who does not produce geothermal heat for sale or the generation of power ~~+~~

~~2. A commercial well if it primarily is used~~ ; *or*

(b) *Primarily* to provide geothermal resources on a commercial basis for ~~[purposes]~~*any purpose* other than the generation of power.

3. An industrial well if ~~if~~ *the well* primarily is used to generate power.

NEW SECTION *A person must be licensed to drill wells in this State pursuant to NRS 534.140 in order to drill any:*

1. Geothermal well that uses water consumptively and is subject to the appropriation procedures of chapters 533 and 534 of NRS pursuant to NRS 534A.040; or

2. Geothermal domestic well.

NAC 534A.180 **Applicability.** (NRS 513.063, 534A.090)

1. Only the provisions of NAC 534A.170 to 534A.690, inclusive, *and sections 3 to 8, inclusive, of this regulation*, listed below apply to *geothermal* domestic *[geothermal]* wells:

(a) NAC 534A.190;

(b) *NAC 534A.200;*

(c) NAC 534A.210;

~~[(e)]~~ (d) NAC 534A.220;

~~[(d) Subsection 1]~~ (e) *Paragraphs (a) and (e) of subsection* of NAC 534A.260;

~~[(e) Subsection]~~ (f) *Subsections 1 and 2* of NAC 534A.270;

~~[(g)]~~ (g) NAC 534A.280;

~~[(g) NAC 534A.310;]~~

(h) Subsection ~~[(2)]~~ 3 of NAC 534A.330;

(i) NAC ~~[534A.340;]~~ *534A.420;*

(j) NAC 534A.470;

(k) NAC 534A.490 (except subsection 9 of that section);

(l) NAC 534A.500;

(m) *Section 6* of this regulation;

(n) Subsections 5 and 6 of NAC 534A.540;

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SECTION 4

Comment [CB21]: LCB File No. R032-19
SECTION 14
*note: "sections 3 to 8 of this regulation" and "Section 6 of this regulation" refers to sections of the **R_ 032-19** LCB document; see SECTION 3, 4, 5, 6, 7 & 8 of that document or as referenced in the comments of this document.

~~[(n)]~~ (o) NAC 534A.550 ~~[-and]~~

~~[(o)]~~ (p) NAC 534A.560; and

(q) NAC 534A.590 to 534A.690, inclusive.

2. All provisions of NAC 534A.170 to 534A.690, inclusive, *and sections 3 to 8, inclusive, of this regulation* apply to commercial wells except ~~[-]~~

~~[(a) Paragraph (a) of]~~ subsection 1 of NAC 534A.200 ~~[-(exemption applies to nonprofit organizations only);]~~

~~[(b) Subsections 2, 3 and 4 of NAC 534A.270;~~

~~[(c) NAC 534A.300;~~

~~[(d) NAC 534A.320; and~~

~~[(e) Subsection 9 of NAC 534A.490.]]~~

3. Except as otherwise specifically provided in NAC 534A.170 to 534A.690, inclusive, *and sections 3 to 8, inclusive, of this regulation*, all of the provisions apply to industrial wells.

Permits, Fees and Other Requirements for Drilling

NAC 534A.190 **Application for permit for individual geothermal well.** (NRS 513.063, 534A.090) An application for a permit to drill or operate an individual geothermal well must be submitted to the Division on a form provided by the Administrator. Except as otherwise provided in NAC 534A.196, an application must:

1. Include a statement of the purpose and estimated depth of the well;
2. Include a description of the kind of casing, equipment for the prevention of a blowout and drilling rig which will be used;
3. Include the name of the owner of the land or designated lot on which the well will be located and the owner of the geothermal resource;
4. Include the name and address of the operator and drilling contractor;
5. Be accompanied by the bond required pursuant to NAC 534A.250.; ~~[-and]~~
6. Include a description of the location of the proposed well by the quarter-quarter section, section, township and range. ~~[-If the area has not been mapped, the application must state the location by distance and direction from an established landmark.]]~~ For domestic and commercial wells a street address may be used, if available ~~[-]~~;

7. Include the global positioning coordinates of the location of the well which:

(a) Are identified by latitude and longitude using decimal degrees or coordinates of the Universal Transverse Mercator system; and

(b) Specify the datum used; and

8. Include the business identification number assigned to the operator by the Secretary of State.

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NAC 534A.193 Application for permit for geothermal wells in a project area. (NRS 513.063, 534A.090) An application for a permit to drill or operate geothermal wells in a project area must be submitted to the Division. Except as otherwise provided in NAC 534A.196, the application must:

1. Include a statement of the number, purpose and estimated depth of the proposed wells in the project area;
2. Include a description of the kind of casing, equipment for the prevention of a blowout and drilling rig which will be used;
3. Include the name of the owner of the land or designated lots on which the proposed wells will be located;
4. Include the name of the owner of the geothermal resource;
5. Include the name and address of the operator and drilling contractor;
6. Include a description and map of the project area by section, township and range; and
7. Be accompanied by the bond required by NAC 534A.250.

(Added to NAC by Comm'n on Mineral Resources, eff. 12-16-92; A 8-22-94)

NAC 534A.196 Application for permit for injection well. (NRS 513.063, 534A.090)

1. An operator shall file with the Division an application for a permit to drill or operate an injection well or a permit to drill or operate injection wells in a project area. The application must contain, in addition to the information required by NAC 534A.190 or 534A.193, as applicable:
 - ~~1-1~~ (a) A description of the casings in the wells, or the proposed wells, and the proposed method for testing the casings before those wells are used for injection;
 - ~~1-2~~ (b) The estimated maximum injection pressure and temperature; and
 - ~~1-3~~ (c) A description of the proposed pipelines, metering equipment and safety devices that will be used to prevent accidental pollution.
2. *In addition to the requirements of subsection 1, an operator shall obtain a permit issued by the Division of Environmental Protection of the State Department of Conservation and Natural Resources pursuant to the provisions of NRS 445A.300 to 445A.730, inclusive, and any regulations adopted by the State Environmental Commission pursuant thereto, before the operator may operate an injection well.*

NAC 534A.200 Location of well: Limitations. (NRS 513.063, 534A.090)

1. No well may be drilled within 100 feet of:
 - (a) The boundary of the land on which the well is situated.
 - (b) A public road, street or highway.
2. Upon written application, the Administrator may grant an exception to the provisions of subsection 1. The Administrator shall consider:
 - (a) The topographic, hydrologic, *geographic* and geologic characteristics of the area and the characteristics of the reservoir;

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(b) The protection of the environment; and

(c) Any existing rights.

(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85)

NAC 534A.205 Location of well: Survey required; filing of certified plat of location.
(NRS 513.063, 534A.090)

1. Except as otherwise provided in subsection 3, the location of an individual geothermal well or the geothermal wells in a project area must be surveyed by a professional land surveyor who is licensed pursuant to chapter 625 of NRS.

2. Except as otherwise provided in subsection 3, a certified plat of the location must be filed with the Division within 30 days after the completion of the construction of the well. The plat must:

(a) Be of a standard size;

(b) Show the location of any designated lots; and

(c) Contain a description of the location of the proposed well:

(1) Within a 40-acre legal subdivision; or

(2) Which includes an accurate course and distance tied to an established corner of a section or quarter section and a full description of the corner to which the tie is made, together with all markings thereon.

3. The provisions of this section do not apply to a thermal gradient well.

(Added to NAC by Comm'n on Mineral Resources, eff. 12-16-92; A by R057-15, 12-21-2015)

NAC 534A.210 Fees for permits for individual geothermal wells. (NRS 513.063,

534A.090) A person who files an application for a permit to drill or operate an individual geothermal well shall pay to the Commission a fee according to the following schedule:

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INDUSTRIAL WELLS

Production Well..... \$500

Injection Well..... 500

~~Observational Well (larger than a 7-inch surface casing)..... 500~~

~~Observational~~ **Observation** Well (a 7-inch or smaller surface casing)..... 300

Thermal Gradient Well..... 100

COMMERCIAL WELLS

Production Well..... 200

Injection Well..... 200

GEOHERMAL DOMESTIC WELLS..... 50

(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85; A 12-16-92)

NAC 534A.212 Fees for permits for geothermal wells in project areas. (NRS 513.063, 534A.090)

Comment [CB26]: LCB File No. R032-19
SECTION 19

1. Except as otherwise provided in subsection 2, a person who files an application for a permit to drill or operate geothermal wells in a project area shall pay to the Commission an application fee of \$500 and an additional fee per well according to the following schedule:

	First Well	Each Subsequent Well of the Same Type
Production Well	\$500	\$300
Injection Well	500	300
Observational Well	-	-
(over a 7-inch surface casing)	500	300
Observational <i>Observation</i>		
Well (a 7-inch or smaller surface casing)	300	150
Thermal Gradient Well	100	50

2. A person who files an application for a permit to drill or operate ~~geothermal~~ a thermal gradient ~~well~~ *well* in a project area need not pay the application fee, but shall pay the applicable additional fees listed in subsection 1.

NAC 534A.214 Annual fee for industrial or commercial geothermal production well, geothermal injection well or thermal gradient or observation well. (NRS 513.063, 534A.080, 534A.090) On or before January 31 of each year:

Comment [CB27]: LCB File No. R032-19
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1. The owner of the geothermal resource or the operator of an industrial or commercial geothermal production well or geothermal injection well shall submit to the Division a fee of \$600 for each well which produced or was used to dispose of fluids derived from geothermal resources into an underground reservoir during the preceding calendar year. The provisions of this subsection do not apply to an industrial well which produced fluids during the preceding calendar year if no power was generated at the well and the production was only for the purpose of testing the well.
2. The owner or operator of a thermal gradient or an ~~observational~~ *observation* well shall submit to the Division a fee of \$100 for each such well unless the well has been abandoned and plugged.

(Added to NAC by Comm'n on Mineral Resources, eff. 12-16-92; A by R069-99, 8-19-99; R057-15, 12-21-2015)

NAC 534A.216 Payment of fee based on depth of well. (NRS 513.063, 534A.090)

Within 30 days after the completion of the construction of a geothermal well listed in this

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section and the removal of the drill rig from the location of the well, the person who holds a permit to drill or operate an individual geothermal well or a permit to drill or operate geothermal wells in a project area shall pay to the Division a fee based on the depth of the well according to the following schedule:

	300 to 1,000 Feet Deep	1,001 to 5,000 Feet Deep	Over 5,000 Feet Deep
INDUSTRIAL WELLS			
Production Well	\$1,000	\$2,000	\$2,500
Injection Well	1,000	2,000	2,500
Observational Observation Well (larger than a 7-inch surface casing)	500 300	500	2,500
COMMERCIAL WELL	200	200	200

(Added to NAC by Comm'n on Mineral Resources, eff. 12-16-92)

NAC 534A.220 Expiration of permits. (NRS 513.063, 534A.090) Unless operations have been commenced or the operator is proceeding with due diligence, a permit to drill an individual geothermal well or a permit to drill geothermal wells in a project area expires 24 months after the date on which it was issued unless extended by the Administrator for good cause shown.

(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85; A 12-16-92)

NAC 534A.240 Assignment of permits. (NRS 513.063, 534A.090)

1. A permit to drill or operate an individual geothermal well or a permit to drill or operate geothermal wells in a project area may be assigned, subject to the conditions of the permit, upon the written approval of the Administrator. The transferee must furnish a bond as provided in NAC 534A.250.
2. Approval by the Division of the transfer is the authority for release or cancellation by the transferor of his or her surety.

(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85; A 12-16-92)

NAC 534A.250 Bond: Filing requirements; amount; form; duration. (NRS 513.063, 534A.090)

1. Except as otherwise provided in this section, the operator shall provide a sufficient bond ~~in~~ ~~the sum of not less than \$10,000~~ in favor of the State of Nevada for each geothermal well, conditioned on the plugging of the well upon abandonment in accordance with NAC 534A.170 to 534A.690, inclusive ~~[-],~~ **and sections 3 to 5, inclusive, of this regulation.** The bond must be ~~submitted~~ **:**

(a) In the sum of:

Comment [CB29]: LCB File No. R032-19 SECTION 22
*note: "sections 3 to 5 of this regulation" refers to sections of the **R_032-19** LCB document; see SECTION 3, 4 & 5 of that document or in the comments of this document.

(1) For a thermal gradient well, not less than \$10,000; and

(2) For a commercial or industrial well, not less than \$25,000; and

(b) Submitted with the application for a permit to drill or operate an individual geothermal well or an application for a permit to drill or operate geothermal wells in a project area.

2. An operator may file a blanket bond, in ~~the~~ *the* sum of at least ~~[\$50,000,]~~ *\$100,000*, to cover all wells to be drilled or operated by the operator ~~[.]~~ *in a project area for which the operator has received a permit pursuant to 534A.193.*

3. A bond must be:

(a) In cash;

(b) Issued by a surety authorized to do business in Nevada; or

(c) In the form of a savings certificate or time certificate of deposit which is:

(1) Issued by a bank or savings and loan association operating in Nevada; and

(2) Payable to the State of Nevada.

4. An operator who has deposited a performance bond with the Federal Government for wells drilled on federal ~~land~~ *property* shall ~~file a copy~~ *submit evidence* of that bond with the Division.

5. *If an operator transfers ownership of a well, the Division may review the bond filed pursuant to this section to determine whether the existing amount of the bond for the well is sufficient.*

6. The bond required by this section must remain in effect until the well is properly abandoned, the surface is properly restored and the bond is formally released by the Division.

NAC 534A.260 Requirements for casing. (NRS 513.063, 534A.090)

Comment [CB30]: LCB File No. R032-19
SECTION 23

1. *Except as otherwise provided in subsection 2:*

(a) All wells must be cased in such a manner as to minimize damage to the environment, ground and surface waters, geothermal resources and property.

~~2.]~~ *(b)* Except as otherwise ordered by the Administrator, the completion equipment for a well must be attached to the surface casing. All casing, except conductor casing, which reaches the surface must provide adequate anchorage for equipment for the prevention of a blowout and control of the pressure in the well.

~~3.]~~ *(c)* Surface casing must ~~provide~~:

(1) Provide for *the* control of formation fluids and protection of fresh water. The cement for the surface casing must be circulated up the annulus to the surface. If the cement does not circulate or falls back, the casing must be cemented at the surface. Sufficient casing must be set to reach a depth below all known or reasonably estimated levels of fresh water to protect those aquifers and to prevent blowouts or uncontrolled flows. ~~[Surface casing may not be set less than 10 percent of the proposed total depth of the well or a minimum of 50 feet, whichever is greater.]~~

(2) Be cemented to a depth that is at least 10 percent of the proposed total depth of the well, with a minimum of 200 feet and a maximum of 1,500 feet of casing.

(3) If the first string of surface casing has not been cemented in a competent geological formation or if an unusual drilling hazard exists, include a second string of surface casing that is cemented into or through a competent geological formation.

~~{4.}~~ (d) When intermediate casing is installed, cement must be circulated to the surface or to the top of the casing with at least a 100-foot overlap into the next string of casing.

~~{5.}~~ (e) Production casing may be set above or through the production or injection zone. Casing must be cemented to the surface or, if a liner is used, to the top of the casing. If surface casing overlaps into an intermediate string, the overlap must be at least 100 feet, solidly cemented and tested to withstand at least 750 pounds of *differential* pressure per square inch of gauge. A decline in the pressure of 10 percent or less *at the surface* in 30 minutes is acceptable. For *geothermal* domestic ~~for commercial~~ wells less pressure or another acceptable mechanical test may be approved by the Administrator.

(f) For wells with downhole centralizers, casing strings must be properly centered and the top of the casing must be properly centered with the drilling rig during and immediately after the casing is cemented into place. The number and depth of the casing centralizer must be recorded in the well driller's log during the installation of the casing strings.

(g) If a cellar is utilized, the design of the cellar must:

(1) Prohibit any contact between soil and water and the casing and wellhead components; and

(2) Prevent the occurrence of standing water around the casing and wellhead components.

2. The Administrator may:

(a) Impose alternate requirements for the surface casing of a well than those provided in paragraph (c) of subsection 1 to ensure that there is adequate protection of fresh water zones and blowout control. In considering whether to impose additional or alternate surface casing requirements, the Administrator may consider, without limitation, the known geological conditions of the area in which the well is drilled and any applicable engineering factors.

(b) Grant an exception to the requirements of this section for a thermal gradient well that is less than 500 feet deep.

NAC 534A.270 Prevention of blowout; testing of equipment for prevention of blowout.
(NRS 513.063, 534A.090)

Comment [CB31]: LCB File No. R032-19
SECTION 24

1. An operator shall take all precautions which are necessary to keep wells under control and operating safely at all times. Well control and wellhead assemblies used in any geothermal well must meet the minimum specifications for assemblies prescribed by the American Petroleum Institute, *or its successor organization*, in *the most current edition* of Standard 53, ~~["Blowout Prevention"]~~ *"Well Control"* Equipment Systems for Drilling Wells, *" [Fourth Edition," or by its successor organization,]* or as may be otherwise prescribed by the Administrator. *The most current edition is available by mail from*

Global Engineering Documents, 15 Inverness Way East, Englewood, Colorado 80112-5776, by telephone at (800) 854-7179 or at the Internet address <http://global.ihs.com>, for the price of \$160.

2. Equipment for the prevention of a blowout, capable of shutting in the well during any operation, must be installed on the surface casing and maintained in good operating condition at all times. This equipment must have a rating for pressure greater than the maximum anticipated pressure at the wellhead. Equipment for the prevention of a blowout is required on any well where temperatures may exceed ~~[250°F.]~~ **200°F.**
3. An operator shall test the equipment for the prevention of a blowout under pressure. A representative of the Division must observe the test in person or otherwise approve the results of the test before the operator drills the casing shoe out of the casing. An operator shall notify the Division not less than 24 hours before conducting a test pursuant to this subsection.
4. The operator shall submit to the Division the pressure data and supporting information for the equipment for the prevention of a blowout as soon as practicable after the conclusion of the test conducted pursuant to subsection 3. The operator shall record the results of each test in the daily drilling log of the operator.

(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85; A by R011-14, 10-24-2014)

NAC 534A.280 Measurements of temperature. (NRS 513.063, 534A.090)

1. The temperature of the mud that is returned up the ~~[hole]~~ **well bore** must be observed continuously by the operator during the drilling of the well whenever temperatures of the drilling fluids at the surface reach ~~[200°F.]~~ **125°F.** These temperatures must be entered into the well log after each joint of pipe has been drilled.

2. Mud cooling equipment is required when the flow line temperature reaches 125°F.

~~NAC 534A.300 Logging of wells. (NRS 513.063, 534A.090) All geothermal wells must be logged with an electrical well log or neutron gamma ray or similar log from the bottom of the hole to the bottom of the surface casing.~~

~~—(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85; A-12-16-92)~~

NAC 534A.310 Taking of cuttings is condition for approval; submission to Bureau of Mines and Geology. (NRS 513.063, 534A.090) The ~~[taking of]~~ **operator shall take two sets of** cuttings at least every 30 feet. ~~[, and filing thereof, is a condition for approval of the drilling permit.]~~ The cuttings **and a split of any core** must be ~~[cleaned,]~~ :

- 1. Cleaned,** dried, marked for location and depth and placed in envelopes ~~[. The cuttings and a split of any core must be submitted]~~ ; **and**
- 2. Submitted** to the Bureau of Mines and Geology of the State of Nevada within 30 days after the well is completed.

~~NAC 534A.320 Limitation on opening of interval in well. (NRS 513.063, 534A.090) No interval in a geothermal well, except for one operated by a nonprofit organization, may be opened to the well bore closer than 100 feet from the outer boundary of the lease on which the well is located.~~

Comment [CB32]: LCB File No. R032-19
SECTION 25

Comment [CB33]: LCB File No. R032-19
SECTION 42

Comment [CB34]: LCB File No. R032-19
SECTION 26

Comment [CB35]: LCB File No. R032-19
SECTION 42

~~-(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85)~~

NAC 534A.330 Identification of producing wells by sign; assignment of code number.
(NRS 513.063, 534A.090)

Comment [CB36]: LCB File No. R032-19
SECTION 27

1. Each producing well must be identified by a sign posted within ~~[30]~~ **100** feet of the well unless the property on which the well is located has a street address. The sign must ~~[be]~~ :

(a) *Be* of durable construction. ~~[The]~~

(b) *Use* lettering ~~[must be]~~ kept in legible condition ~~[and be]~~ **that is** large enough to be legible under normal conditions at a distance of 25 feet. ~~[The wells must be numbered in nonrepetitive, logical and distinctive sequence. Each sign must show]~~

(c) *Show* the ~~[number]~~ :

(1) *Number* of the well . ~~[, the name]~~ **Every well must be numbered in a nonrepetitive, logical and distinctive sequence.**

(2) *Name* of the lease, which must be different and distinctive for each lease . ~~[, the name]~~

(3) *Name* of the lessee, owner or operator . ~~[and the location]~~

(4) *Location of the well* by **legal land description which must include:**

(I) *Lot, tract or* quarter-quarter section ~~[, section,]~~ ; **and**

(II) *Section*, township and range. ~~[This requirement]~~

(5) *Permit number of the well.*

2. *The requirements of subsection 1* may be modified by the Administrator for good cause.

~~[2.]~~ 3. The Division shall assign to each well a ~~[code number]~~ **U.S. Well Number** of the ~~[American]~~ **Professional Petroleum [Institute] Data Management Association** when the drilling permit is approved.

~~NAC 534A.340 Records to be kept by owner of geothermal resource or operator of well; inspection. (NRS 513.063, 534A.090)~~

Comment [CB37]: LCB File No. R032-19
SECTION 42

~~1. The owner of the geothermal resource or the operator of the well shall keep an accurate:~~

~~(a) Log, which must include the lithologic characteristics and depths of the formations, the depths and temperatures of water bearing and steam bearing strata and the temperatures, chemical compositions and other characteristics of fluids encountered during drilling;~~

~~(b) Record of the core, which must contain a notation of the depth, lithologic character and fluid content of the cores;~~

~~(c) History of the well, which must describe in detail all significant operations and equipment used during all phases of drilling, testing, completing and abandoning each well; and~~

~~(d) Summary, which must include data pertinent to the condition of a well at the time it is completed.~~

~~2. These records must be kept at the site of the well or in the nearest office of the owner or operator. The Division may inspect the records during normal business hours.~~

~~-(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85)~~

~~**NAC 534A.350 Filing of logs and other records. (NRS 513.063, 534A.090)**~~

~~1. The operator shall, within 60 days after the completion or cessation of drilling, file with the Division the electrical logs required to be kept. The filing must include, without limitation, two printed copies, one digital copy and one copy in LASer (LAS) file format.~~

~~2. The operator shall, within 60 days after the removal of the rig, file with the Division all required logs not already filed pursuant to subsection 1, the record of the core, the history of the well and the summary.~~

~~-(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85; A by R057-15, 12-21-2015)~~

Daily logs

~~**NAC 534A.360 Filing of directional survey after completion of directionally drilled well. (NRS 513.063, 534A.090)**~~ Within 60 days after the completion of a directionally drilled well, a directional survey of the well, including a plat obtained by the method used to survey wells, must be filed with the Division.

~~-(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85)~~

Comment [CB38]: LCB File No. R032-19
SECTION 42

Comment [CB39]: LCB File No. R032-19
SECTION 42

Production

NAC 534A.390 Equipment for development and production of geothermal resources; additional testing or remedial work. (NRS 513.063, 534A.090)

1. All equipment used or purchased for the development and production of geothermal resources must meet the minimum standards generally accepted for equipment used for geothermal wells.
2. The Division may require additional testing or remedial work to prevent waste and damage to the environment.

(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85)

NAC 534A.400 Measurement of rate of flow of water and steam and of pressure and temperature of fluids. (NRS 513.063, 534A.090)

- 1. The rate of the flow of water or steam, or both, and the pressure and temperature of the fluids from each well must be accurately measured. Metering must be on a continuous basis and each well must be gauged at the frequency prescribed by the Administrator.*
- 2. All equipment used to take the measurements required pursuant to subsection 1 must be calibrated on a regular basis in accordance with the manufacturer's recommendation.*

~~**NAC 534A.410 Monthly reports of production and temperature. (NRS 513.063, 534A.090)**~~ The owner of a geothermal resource or the operator of a producing industrial or commercial well shall file, on a form provided by the Division, a monthly report of production and temperature on or before the last day of each month for the preceding month.

~~-(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85; A 9-11-95; R057-15, 12-21-2015)~~

Comment [CB40]: LCB File No. R032-19
SECTION 28

Comment [CB41]: LCB File No. R032-19
SECTION 42

NAC 534A.420 Reinjection of fluids unless alternative method of disposal approved; “by-product” defined. (NRS 513.063, 534A.090)

1. Unless the Administrator approves an alternative method of disposal, all fluids derived from geothermal resources must be reinjected into the same reservoir from which the fluids were produced.
2. For purposes of this section, “by-product” means any minerals which are found in solution or in association with geothermal resources and which because of quantity, quality or technical difficulties in extraction and production are of insufficient value to warrant extraction and production by themselves.

(Added to NAC by Comm’n on Mineral Resources, eff. 11-12-85)

NAC 534A.430 Casing of injection wells; filling of annular space. (NRS 513.063, 534A.090) Injection wells must be completed with safe and adequate casing which is properly cemented to protect fresh water aquifers. The annular space must be filled by circulating cement up the annulus to the surface. If the cement does not circulate or falls back, the casing must be cemented ~~fat~~ to the surface.

Comment [CB42]: LCB File No. R032-19
SECTION 29

NAC 534A.450 Notification of beginning and discontinuance of injection. (NRS 513.063, 534A.090)

1. Immediately before beginning any injection, the operator shall notify the Division of the date on which injection will begin.
2. Within 10 days after the discontinuation of the operations, the operator shall notify the Division of the date of discontinuation and the reasons therefor.

(Added to NAC by Comm’n on Mineral Resources, eff. 11-12-85)

~~**NAC 534A.460 Monthly report of injection. (NRS 513.063, 534A.090)** The owner of the geothermal resource or operator of any well who injects geothermal fluids into a reservoir shall file a report, which includes the volume, temperature, and pressure at the wellhead of the injection fluid on a form provided by the Division on or before the last day of the month for the preceding month.~~

Comment [CB43]: LCB File No. R032-19
SECTION 42

~~-(Added to NAC by Comm’n on Mineral Resources, eff. 11-12-85)~~

Abandonment and Plugging

NEW SECTION

Comment [CB44]: LCB File No. R032-19
SECTION 6

1. If a well is inactive for 2 years or more, the Administrator may issue an order to the operator to show cause as to why the well should remain open and that such action is consistent with:

- (a) The policies specified in NRS 445A.305 and 445B.100;*
- (b) The purposes of chapters 533 and 534 of NRS; and*
- (c) The purposes specified in chapter 501 of NRS.*

2. If the Administrator finds that good cause has not been shown, the Administrator may declare the well abandoned and order the well to be plugged.

3. *The Administrator shall send written notice of the order to plug the well to the operator by registered or certified mail with return receipt requested.*

4. *If the operator fails to respond in writing within 45 days after the written notice is mailed pursuant to subsection 3 with a plan for plugging the well and:*

(a) *The well is bonded by a federal agency, the Administrator must notify the federal agency and coordinate with the federal agency to ensure that the well is plugged.*

(b) *The well is not bonded by a federal agency, the Administrator may, without further notice, take such steps necessary to plug the well. The costs of plugging the well, including labor and material, may be paid from the bond filed pursuant to NAC 534A.250. Any costs above the bond are a lien upon the land on which the well is located.*

NAC 534A.470 Application for permission to abandon and plug geothermal well. (NRS 513.063, 534A.090)

Comment [CB45]: LCB File No. R032-19
SECTION 30

~~If the~~ *The* owner of the geothermal resource or the operator ~~files~~ *shall file* with the Division an application for permission to abandon and plug a geothermal well pursuant to NAC 534A.540. ~~The~~ *The* application must ~~be~~ :

1. *Be* accompanied by a detailed statement of the proposed activity ~~to~~ *to abandon and plug the geothermal well; and*

2. *If conditions within the geothermal well make it impossible for the owner or operator to plug the geothermal well, include an explanation of those conditions and a plan for the owner or operator to substantially comply with the requirements of NAC 534A.480, 534A.490 and 534A.500.*

(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85; A 12-16-92)

NAC 534A.480 Abandonment of thermal gradient well. (NRS 513.063, 534A.090) For abandonment of a thermal gradient well, the following provisions apply:

Comment [CB46]: LCB File No. R032-19
SECTION 31

1. If the well was drilled ~~with air~~ and no water was encountered, the ~~hole~~ *well bore* must be backfilled with cuttings and a cement plug 50 feet long must be placed at the top of the well.

2. If the well ~~was drilled with mud,~~ *encountered water when drilled*, the *well* bore must be filled with ~~mud~~ *a material approved by the Division* and a cement plug of 50 lineal feet must be placed at the top of the well.

3. The surface must be restored as near as practicable to its original condition.

NAC 534A.490 Abandonment of geothermal production, injection or observation well. (NRS 513.063, 534A.090) For abandonment of a geothermal production, injection or ~~observational~~ *observation* well, the following provisions apply:

Comment [CB47]: LCB File No. R032-19
SECTION 32

1. Cement used to plug the well, except cement used for surface plugging, must be placed in the ~~hole~~ *well bore* by pumping through drill pipe or tubing. The cement must consist of a mix which resists high temperatures.

2. Cement plugs must be placed in the uncased portion of wells to protect all subsurface resources. These plugs must extend a minimum of 100 lineal feet above the producing formations and 100 lineal feet below the producing formations or to the total depth

drilled, whichever is less. Cement plugs must be placed to isolate formations and to protect the fluids in those formations from interzonal migration.

3. Where there is an open ~~hole,~~ *well bore*, a cement plug must be placed in the deepest casing string by:
 - (a) Placing a cement plug across the guide shoe extending a minimum of 100 lineal feet above and below the guide shoe, or to the total depth drilled, whichever is less; or
 - (b) Setting a cement retainer with effective control of back pressure approximately 100 lineal feet above the guide shoe, with at least 200 lineal feet of cement below, or to the total depth drilled, whichever is less, and 100 lineal feet of cement above the retainer.
4. If there is a loss of drilling fluids into the formation or such a loss is anticipated or if the well has been drilled with air or another gaseous substance, a permanent bridge plug must be set at the casing shoe and capped with a minimum of 200 lineal feet of cement.
5. A cement plug must be placed across perforations, extending 100 lineal feet below, or to the total depth drilled, whichever is less, and 100 lineal feet above the perforations. When a cement retainer is used to squeeze cement into or across the perforations, the retainer must be set a minimum of 100 lineal feet above the perforations. Where the casing contains perforations at or below debris or collapsed casing, which prevents cleaning, a cement retainer must be set at least 100 lineal feet above that point, and cement must be squeezed in the interval below the retainer.
6. The approval of the Administrator must be obtained before casing is cut and recovered. A cement plug must be placed in such a manner as to isolate all uncased intervals and guide shoes that are not protected by an inner string of casing. The plug must extend a minimum of 50 feet above and below any such interval or guide shoe.
7. All annular spaces extending to the surface must be plugged with cement.
8. The innermost string of casing which reaches ground level must be cemented to a minimum depth of 50 feet below the top of the casing.
9. The hardness and location of cement plugs placed across perforated intervals and at the top of uncased or open ~~holes~~ *well bores* must be verified by setting down with tubing or drill pipe a minimum weight of 15,000 pounds on the plug or, if less than 15,000 pounds, the maximum weight of the available tubing or drill pipe string. If a cement retainer or bridge plug is used to set the bottom plug, a test is not required for that interval.
10. The surface must be restored as near as practicable to its original condition ~~or~~ *unless the Administrator approves an exception to this requirement requested by the owner of the land.*
11. Any interval that is not filled with cement must be filled with good quality, heavy drilling fluids.

(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85; A by R057-15, 12-21-2015)

NAC 534A.500 Casing strings to be cut off and capped; removal of structures and other facilities. (NRS 513.063, 534A.090) All casing strings must be cut off below ground level and capped by welding a steel plate on the casing stub. All structures and other facilities must be removed.

(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85)

NAC 534A.510 Removal of equipment without approval of Administrator prohibited; permission may be given orally. (NRS 513.063, 534A.090)

1. Drilling equipment must not be removed from any site where drilling operations have been suspended, either temporarily or indefinitely, without the prior approval of the Administrator.
2. Permission to remove equipment may be given orally by the Administrator.

(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85)

Miscellaneous Records, Reports and Other Requirements

NEW SECTION

1. The operator of a geothermal well shall notify the Division by telephone, electronic mail or any other method approved by the Administrator:

(a) At least 48 hours before spudding or testing the production or injection operations for the well; and

(b) At least 24 hours before testing the equipment for the prevention of a blowout pursuant to NAC 534A.270 or testing the casing of the well.

2. In the event of a serious accident, blowout, spill or fire, the operator must immediately notify the Division by telephone or any other method approved by the Administrator.

NEW SECTION

The operator shall file with the Division:

1. On each day of drilling, a daily drilling log, which must include, without limitation, the results of any test of the equipment for the prevention of a blowout pursuant to NAC 534A.270; and

2. On or before the last day of each month, a monthly report for the preceding month on a form provided by the Division for any well that produces or injects for any part of the month and includes the following information, as applicable:

(a) For a production well, all geothermal production, sales, average temperatures and the consumptive use from commercial and industrial wells.

(b) For an injection well, the details of any well used to inject geothermal fluids into a reservoir, including, without limitation:

(1) The volume of geothermal fluid;

(2) If utilized, the volume of augmentation water; and

(3) The pressure and temperature of the injection fluid at the wellhead.

(c) For any non-reinjected fluid, the volume and temperature of any water that is not reinjected and the use of that fluid.

Comment [CB48]: LCB File No. R032-19
SECTION 5

Comment [CB49]: LCB File No. R032-19
SECTION 7

~~NAC 534A.520 Maintenance of records to substantiate reports; requirement of additional reports. (NRS 513.063, 534A.090)~~

Comment [CB50]: LCB File No. R032-19
SECTION 42

~~1. All producers and handlers of geothermal resources shall make and keep appropriate books and records covering their operations in Nevada for a period of at least 5 years after cessation of activities, to substantiate the required reports.~~

~~2. The Division may require additional reports, data or other information on the production and use of geothermal energy to prevent waste and to conserve natural resources.~~

~~(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85)~~

~~NAC 534A.530 Filing of organizational report and amendments. (NRS 513.063, 534A.090) On a form provided by the Division, an organizational report must be filed by each applicant before any permits for drilling are issued. An amended form must be filed if there is a change in the information initially submitted to the Division.~~

Comment [CB51]: LCB File No. R032-19
SECTION 42

~~(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85)~~

NAC 534A.535 Notice of intention to engage in certain activities. (NRS 513.063, 534A.090)

Comment [CB52]: LCB File No. R032-19
SECTION 33

1. The owner of the geothermal resource or operator shall notify the Division of his or her intention to:

(a) Make a minor change in the manner in which a well is operated;

(b) Conduct a temperature or pressure survey; *or*

(c) ~~Conduct a flow test; or~~

~~(d) Perform routine maintenance of a well.~~

➔ The notice must be submitted to the Division on Form 4 (Sundry Notices and Reports on Wells) *[.] not later than 5 days of initiating the activity.*

2. As used in subsection 1, "minor change" includes:

(a) Installing or changing capillary tubing *[.] ; or*

(b) ~~Pulling or replacing a pump.~~

~~(c) Any other change for which the Division takes little or no action other than acknowledging the notice and filing it.~~

(Added to NAC by Comm'n on Mineral Resources, eff. 12-16-92)

NAC 534A.540 Permission to engage in certain activities; report of progress or completion; authority of Division. (NRS 513.063, 534A.080, 534A.090)

Comment [CB53]: LCB File No. R032-19
SECTION 34

1. A person shall not engage in an activity listed in subsection 3 or 4 without the permission of the Division.

2. The owner of the geothermal resource or operator shall submit an application for permission to engage in an activity listed in subsection 3 or 4 on Form 4 (Sundry Notices and Reports on Wells). Upon request, the Administrator may, as he or she deems appropriate in extraordinary circumstances, grant oral permission to engage in an activity

listed in subsection 3 or 4. Oral permission to engage in an activity listed in subsection 3 or 4 does not relieve the owner of the geothermal resource or operator of his or her obligation to submit an application pursuant to this section.

3. The fee is \$300 to file an application for permission to engage in any one of the following activities:
 - (a) Increasing the depth of a well;
 - (b) Testing of water shut-off;
 - (c) Entering or opening a plugged well;
 - (d) Shooting, acidizing or fracture treating;
 - (e) Drilling in a direction which is not intended to be vertical, including directional drilling;
 - (f) Changing the construction of a ~~hole~~ well bore or well, including:
 - (1) Placing a plug in the ~~hole~~ well bore or well; and
 - (2) Recovering or altering the casing;
 - (g) Conducting a major work over or cleaning of a well; and
 - (h) Any other proposed activity for which the Division:
 - (1) Conducts an extensive review;
 - (2) Conducts a field inspection; or
- (3) Evaluates information or documentation regarding the construction of a ~~hole~~ well bore or well.
4. The fee is \$100 to file an application for permission to engage in any one of the following activities:
 - (a) Extending a permit;
 - (b) Changing the ownership of a well;
 - (c) Changing the status of a well;
 - (d) Changing the name of a well;
 - (e) Changing the location of a proposed well; and
 - (f) Abandoning and plugging a well;
 - (g) Conduct a flow test; or
 - (h) Pulling or replacing a pump.
5. The owner of the geothermal resource or operator shall report to the Division any progress regarding or the completion of an activity for which permission was required pursuant to this section and any supplemental history of the well.
6. In the case of a *geothermal* domestic well, the owner of the geothermal resource or the operator shall:

- (a) Not engage in an activity listed in paragraph (a) or (c) of subsection 3, subparagraph (1) of paragraph (f) of subsection 3 or paragraph (f) of subsection 4 without the permission of the Division; and
- (b) Submit to the Division an application for permission to engage in an activity listed in paragraph (a) or (c) of subsection 3, subparagraph (1) of paragraph (f) of subsection 3 or paragraph (f) of subsection 4. The owner or operator shall file the application on Form 4 (Sundry Notices and Reports on Wells) and is not required to pay a fee to file.
7. The Division may, as it deems appropriate, observe and release information which is not confidential regarding activities for which permission was required pursuant to this section.
- (Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85; A 12-16-92; R057-15, 12-21-2015)

NAC 534A.550 Filing of report of completion and well logs. (NRS 513.063, 534A.090)

Comment [CB54]: LCB File No. R032-19
SECTION 35

1. Within 30 days after the completion of the construction of a well, the owner of the geothermal resource or the operator shall file with the Division:

- (a) A report setting forth the manner in which the well was completed ~~on a form designated by the Division;~~ *on a form designated by the Division;*
- (b) ~~Two sets of all well logs.~~ *For a directionally drilled well, a directional survey, which must include, without limitation, a plat obtained by the method used to survey the well;*
- (c) *A lithologic log, which must include the lithologic characteristics and depths of the formations, the depths and temperatures of water-bearing and steam-bearing strata and the temperatures, chemical compositions and other characteristics of fluids encountered during drilling; and*
- (d) *The following well logs, if applicable:*

<i>Log Type</i>	<i>Industrial or Commercial Production Well</i>	<i>Industrial or Commercial Injection Well</i>	<i>Geothermal Domestic Well</i>	<i>Thermal Gradient Well</i>
<i>Gamma or similar log</i>	<i>Required</i>	<i>Required</i>	<i>Submit if run</i>	<i>Submit if run</i>
<i>Cement Bond Log</i>	<i>Submit if run</i>	<i>Submit if run</i>	<i>Submit if run</i>	<i>Submit if run</i>
<i>Lithologic Log</i>	<i>Required</i>	<i>Required</i>	<i>Required</i>	<i>Required</i>
<i>Temperature Log</i>	<i>Required</i>	<i>Required</i>	<i>Required</i>	<i>Required</i>
<i>Other Logs</i>	<i>Submit if run</i>	<i>Submit if run</i>	<i>Submit if run</i>	<i>Submit if run</i>

2. *Within 30 days after the well is plugged, the operator shall file with the Division a well plugging report on a form designated by the Division.*

3. *The survey and well logs filed pursuant to subsection 1 must include two paper copies, one digital copy and for any electric logs, one copy in LASer (LAS) file format.*
4. The Division shall file one set of the well logs *filed pursuant to subsection 1* with the Bureau of Mines and Geology of the State of Nevada.

NAC 534A.560 Monthly reports. (NRS 513.063, 534A.090)

1. ~~[A]~~ *The owner of the geothermal resource or the operator of the well shall keep the following records at the site of the well or at the nearest office of the owner or operator:*
- (a) *A copy of each monthly report ~~[of all geothermal production and sales, average temperatures and consumptive use from commercial and industrial wells must be filed in duplicate with the Division on or before the last day of the month following the month during which the production occurred. The producer shall retain a copy for his or her file.~~*
- ~~2. Wells which produce for any part of the month must be included in the monthly report.]~~
- filed by the operator pursuant to section 7 of this regulation;*
- (b) *The lithologic log required pursuant to paragraph (c) of subsection 1 of NAC 534A.550;*
- (c) *A record of the core, which must contain a notation of the depth, lithologic character and fluid content of the cores;*
- (d) *A history of the well, which must describe in detail all significant operations and equipment used during all phases of drilling, testing, completing and abandoning each well;*
- (e) *A summary of the well, which must include all data pertinent to the condition of the well at the time the well is completed; and*
- (f) *Any other appropriate books and records covering his or her operations in the State for a period of at least 5 years after any such operations have ended.*

2. The Division may:

- (a) *Require the operator to provide additional reports, data or other information on the production and use of geothermal energy to prevent waste and conserve natural resources; and*
- (b) *Inspect the records kept pursuant to subsection 1 during normal business hours.*

NAC 534A.570 Report of injection of fluid. (NRS 513.063, 534A.090)-1. ~~NAC 534A.570 Report of injection of fluid. (NRS 513.063, 534A.090)~~—The injection of fluid for recharging, to maintain the pressure or for the disposal of water must be reported to the Division. The report must be filed on or before the last day of the month following the month during which the injection occurred.

Comment [CB55]: LCB File No. R032-19
SECTION 36

*note: "sections 7 of this regulation" refers to sections of the **R_032-19** LCB document; see SECTION 7 as referenced of that document or in the comments of this document.

Comment [CB56]: LCB File No. R032-19
SECTION 42

NEW SECTION *Except for any fee required pursuant to NAC 534A.210 to 534A.216, inclusive, or 534A.540, upon written application and good cause shown, the Administrator may grant an exception to any of the requirements of this chapter.*

Comment [CB57]: LCB File No. R032-19
SECTION 8

Rules of Practice and Procedure

NAC 534A.590 **Application for public hearing; petition for rehearing.** (NRS 513.063, 534A.090)

Comment [CB58]: LCB File No. R032-19
SECTION 37

1. ~~[Any interested person who desires]~~ *If the Administrator determines that* a public hearing ~~[before the Division must file an application with the Division. The application must state the purpose or subject for which the hearing is sought and be submitted in triplicate.~~
2. ~~A petition for rehearing must be filed in the same manner.]~~ *is necessary for a full understanding of an application for a permit to drill or operate a geothermal well, the rights involved with the application or to properly guard the public interest, the Administrator shall hold a hearing on the application. The Administrator shall consult with the State Engineer to determine whether the hearing will be held jointly or separately.*
2. *The Administrator shall send notice of a hearing held pursuant to subsection 1 to the applicant, the State Engineer, the Administrator of the Division of Environmental Protection of the State Department of Conservation and Natural Resources and all known parties at least 10 days before the date of the hearing. The notice of the hearing must include, without limitation, the subjects that will be addressed at the hearing.*
3. *The applicant or any other party to a hearing held pursuant to subsection 1 may request that additional issues be included by written motion filed with the Administrator at least 5 days before the date set for the hearing.*
4. *Upon the request of a party to a hearing held pursuant to subsection 1 and for good cause shown, the date of the hearing may be continued. A request for a continuance must be made at least 5 days before the date set for the hearing. Requests may be granted or denied at the discretion of the Administrator who may consult with the State Engineer on the issue.*
5. *The Administrator shall post a notice of a hearing held pursuant to subsection 1 on the Internet website of the Division and send notice of the hearing by electronic mail to any person who has requested notifications of such hearings at the time the notice of the hearing is issued.*

NAC 534A.600 **Docket; numbering of hearings.** (NRS 513.063, 534A.090) The Administrator shall maintain a docket ~~[, and all applications]~~ for hearings ~~[and all hearings called on motion of]~~ held by the Division pursuant to NAC 534A.590. All hearings must be docketed with any application relating to the hearing and ~~[given]~~ assigned a docket number. A file carrying the number must be maintained by the Division. ~~[Each application for a hearing and each original document or copy certified by the Division must be stamped with the number of the hearing and placed and kept in the file.]~~

Comment [CB59]: LCB File No. R032-19
SECTION 38

~~**NAC 534A.610** **Notice of hearing; continuance; notice of certain hearings by publication.** (NRS 513.063, 534A.090)~~

Comment [CB60]: LCB File No. R032-19
SECTION 42

- ~~1. Notice of a hearing must be sent by the Division to the applicant and all known interested parties at least 10 days before the date of hearing.~~
- ~~2. Upon request of a party to a hearing and for good cause shown, the hearing may be continued. A request to have the date of a hearing changed must be made to the Administrator at least 5 days before the date set. Requests may be granted or denied at the discretion of the Administrator.~~
- ~~(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85)~~

NAC 534A.620 Hearings informal; record; protests; preliminary procedure. (NRS 513.063, 534A.090)

1. Hearings before the Division must be conducted informally. A record of testimony must be taken and preserved as a part of the permanent records of the Division.
 2. The Division may require any protest to be reduced to writing and filed with the Division.
 3. Before evidence is received:
 - (a) The Administrator shall make a statement of matters officially noticed;
 - (b) The parties and the Division may offer preliminary materials, including pleadings necessary to present the issues to be heard, motions, rulings, notices, proof of publication and orders of the Division previously entered in the proceeding;
 - (c) The Administrator shall rule on any pending motion;
 - (d) The Administrator shall receive any stipulation of fact or stipulated exhibit;
 - (e) The Administrator shall dispose of any preliminary matters appropriate for disposition before receiving offers of evidence; and
 - (f) The Administrator shall accept statements of appearances.
- (Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85)

NAC 534A.630 Order of proceedings. (NRS 513.063, 534A.090) ~~[The party who initiates the proceeding may open and close the proceeding. The Administrator shall open and close a proceeding which is initiated by the Division. An interested person must be heard immediately following the party with whom the interested person is allied in interest.]~~

Comment [CB61]: LCB File No. R032-19
SECTION 39

- 1. A hearing held pursuant to NAC 534A.590 must be opened with a statement of the issues to be heard and by recognizing the parties to the hearing.*
- 2. The applicant must be heard first at the hearing unless the Administrator finds good cause to hear from another party first.*
- 4. A witness may be examined and cross-examined by not more than one representative of each party.* The Administrator shall designate the order of the ~~[proceedings.]~~ examination.
- 5. Before the close of the hearing:*
 - (a) A party to the hearing is entitled to make closing arguments; and*
 - (b) The Administrator may order or allow the presentation of briefs as determined by the Administrator after he or she consults with the parties.*

6. *After the hearing, the Administrator may issue a ruling in writing which sets forth a finding of facts and conclusions of law. A ruling of the Administrator pursuant to this section is a final decision for purposes of judicial review.*

~~NAC 534A.640 Examination of witnesses. (NRS 513.063, 534A.090) A witness may be examined and cross-examined by not more than one representative of each party. The Administrator will designate the order of examination.~~

~~(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85)~~

NAC 534A.650 Record of proceedings at formal hearings; cost of transcribing and reporting. (NRS 513.063, 534A.090) At all ~~formal~~ hearings, the record of the proceedings must be made by a certified ~~shorthand~~ court reporter, or in the absence of such a reporter, by a person designated by the Administrator. The cost of transcribing and reporting the hearing must be borne by the party designated by the Administrator at the time of the hearing.

(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85)

~~NAC 534A.660 Presentation of briefs. (NRS 513.063, 534A.090) Before closing the hearing, and upon the request of a party, the Administrator may permit the presentation of briefs. The order of presenting briefs and the time by which they must be filed must be determined by the Administrator after he or she consults with the parties.~~

~~(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85)~~

NAC 534A.670 Depositions. (NRS 513.063, 534A.090) The deposition of a witness for use in a hearing before the Division may be taken in compliance with a stipulation between the parties concerned or with an order of the Administrator. If the deposition is to be taken by order of the Administrator, the parties concerned must be notified by certified mail at least 15 days before the date set for the deposition. The notice must set forth the names of the persons to be questioned, the time and place and the subject matter concerning which they are expected to testify.

(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85)

NAC 534A.680 Declaratory order or advisory opinion. (NRS 513.063, 534A.090)

1. Any person may petition the Commission in writing for a declaratory order or an advisory opinion on the applicability of any statutory provision, regulation or decision of the Administrator or Commission.
2. The Commission will issue a declaratory order or render an advisory opinion in writing within 90 days after its receipt of the petition.

(Added to NAC by Comm'n on Mineral Resources, eff. 11-12-85)

NAC 534A.690 Petition for adoption, filing, amendment or repeal of regulation. (NRS 513.063, 534A.090)

1. ~~Any~~ Pursuant to NRS 233B.100, any interested person may submit a petition to the Commission ~~in writing~~ for the adoption, filing, amendment or repeal of a permanent regulation of the Commission.

Comment [CB62]: LCB File No. R032-19
SECTION 42

Comment [CB63]: LCB File No. R032-19
SECTION 40

Comment [CB64]: LCB File No. R032-19
SECTION 42

Comment [CB65]: LCB File No. R032-19
SECTION 41

2. ~~[The]~~ Upon receipt of the petition, the Commission [will ~~send any correspondence by certified mail to the petitioner.~~] refer the petition to the Division to obtain a recommendation whether to approve or deny the petition.
3. As soon as practicable after receiving the petition, but not later than 30 days after the date the petition is received pursuant to subsection 2, the Division shall:
 - (a) Review the petition to determine whether there is legal authority for the proposed adoption, filing, amendment or repeal of the permanent regulation; and
 - (b) Forward to the Commission the petition and the recommendation of the Division whether to approve or deny the petition.
4. Within 30 days after the date on which a petition is submitted, the Commission will:
 - (a) Notify the petitioner in writing of the decision of the Commission to deny the petition and the reasons for the denial; or
 - (b) Initiate the adoption, filing, amendment or repeal of the regulation in accordance with the procedures set forth in chapter 233B of NRS.
5. A decision of the Commission to deny a petition is a final decision for the purposes of judicial review.